SERVICE MANUAL

SANSUI

INTEGRATED STEREO AMPLIFIER

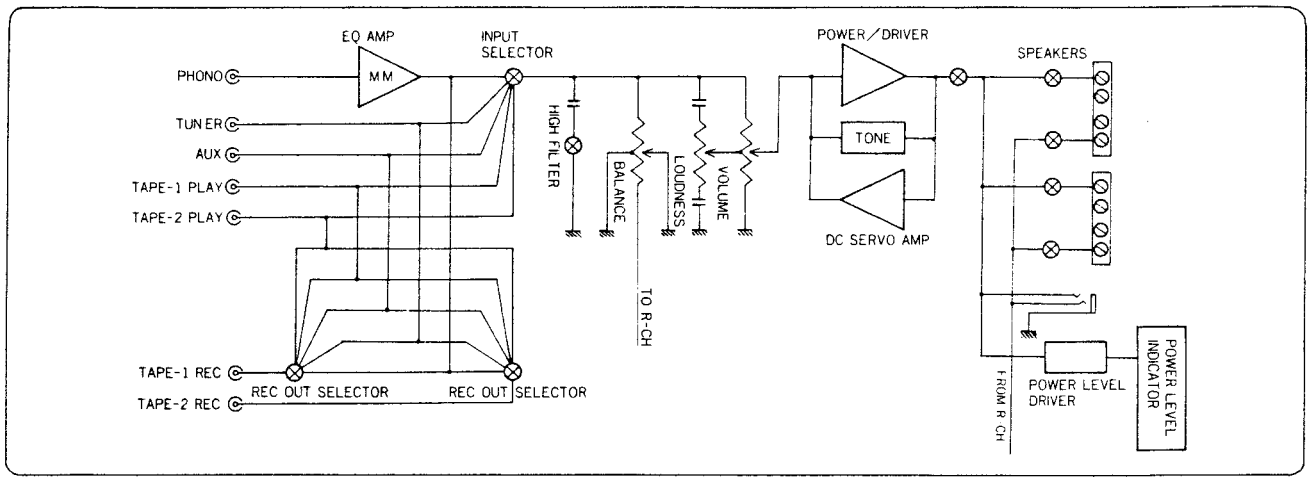
A 60/A 80

Schaltungsdienst Lange OHG
D-12277 Berlin
Tel.:(030)723 81 410

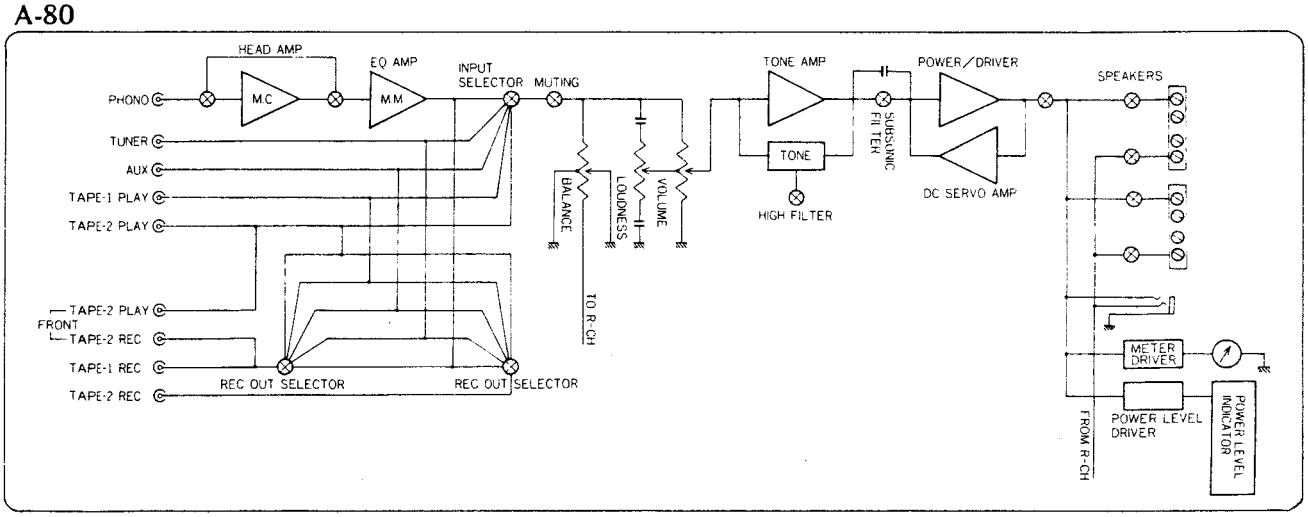
LfdNr. 86

1. BLOCK DIAGRAM

1-1. A-60



1-2. A-80



2. ADJUSTMENTS

Notes: 1. Room Temperature . . . . . 18°C ~ 28°C (65°F ~ 83°F)
2. For this adjustment, run the unit for more than 5 minutes after the power is switched ON with its level volumes minimum.
3. Before adjusting or confirming the bias current, avoid such a measurement that the power transistors are heated.

2-1. A-60 Bias Current Adjustment (See Top View on page 6)

STEP	SUBJECT	MEASURE OUTPUT	ADJUST	ADJUST FOR	REMARK
1.	Bias Current (L-CH) Adj.	Voltage across R71	VR01 on F-3159	DC 1.5 mV	Before turning ON power switch, turn VR01, VR02 fully counterclockwise.
2.	Bias Current (R-CH) Adj.	Voltage across R72	VR02 on F-3159	DC 1.5 mV	In this adjustment, the bias current is converted into the voltage.

2-2. A-80 Bias Current Adjustment (See Top View on page 7)

STEP	SUBJECT	MEASURE OUTPUT	ADJUST	ADJUST FOR	REMARK
1.	Bias Current (L-CH) Adj.	Voltage across R87	VR01 on F-3144	DC 1.5 mV	Before turning ON power switch, turn VR01, VR02 fully counterclockwise.
2.	Bias Current (R-CH) Adj.	Voltage across R88	VR02 on F-3144	DC 1.5 mV	In this adjustment, the bias current is converted into the voltage.

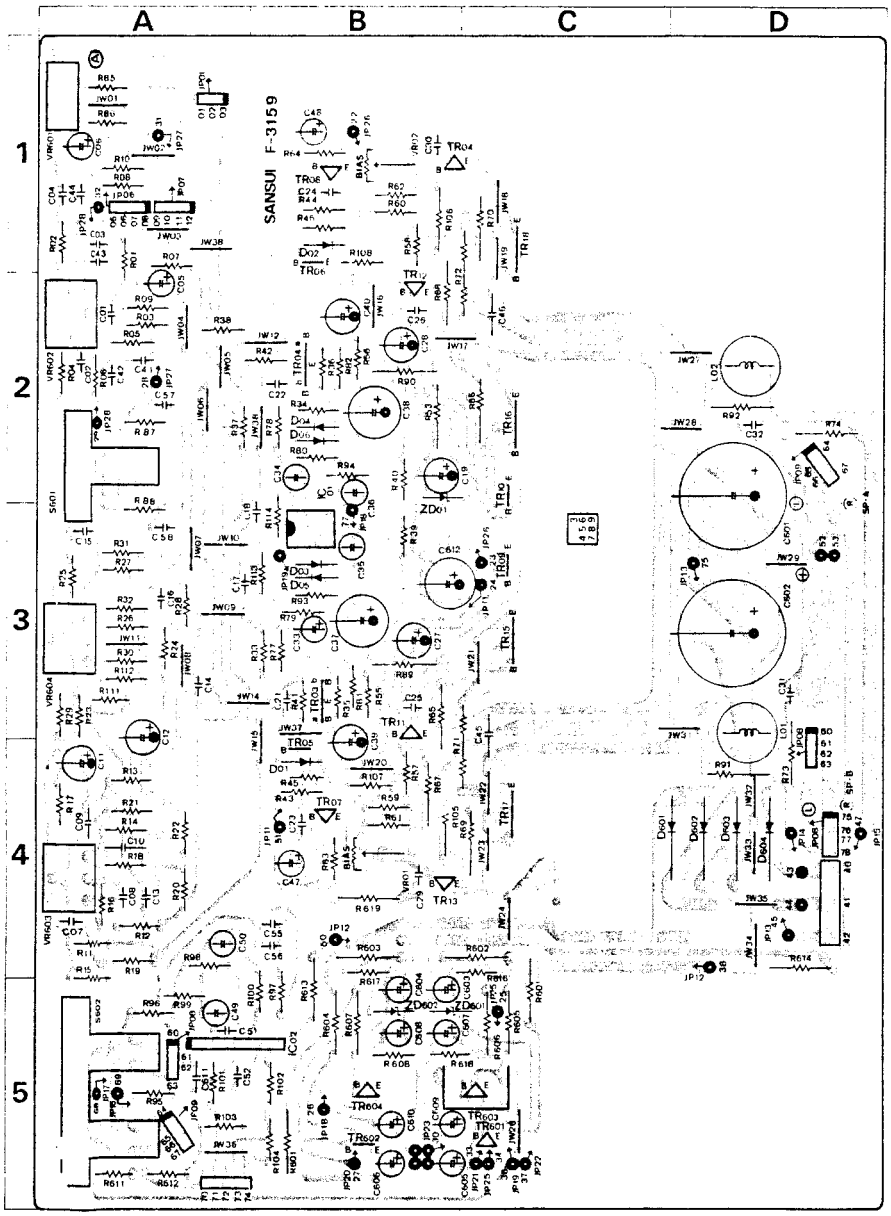
3. PARTS LOCATION & PARTS LIST

- Since some of capacitors and resistors are omitted from parts lists in this Service Manual, refer to the Common Parts List for capacitors & resistors which was appended previously to each Sansui Manual.

●A-60

3-1. F-3159 Tone Control & Power Amp. Circuit Board (Stock No. 75726701)

Conductor Side

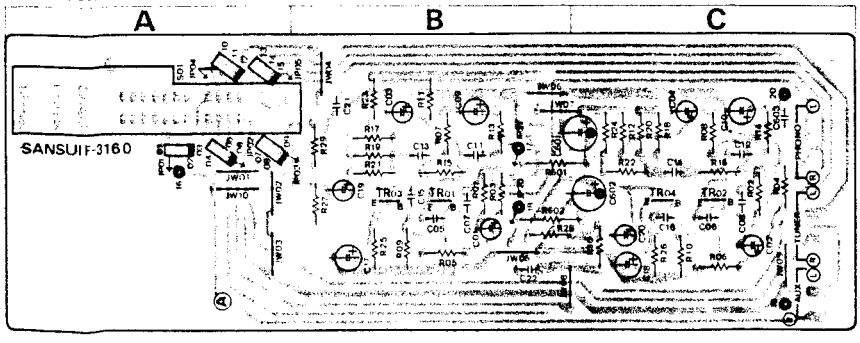


Parts List

Parts No.	Stock No.	Description	Position
●Transistor			
TR03, 04	03603700, 1	2SA798 F, G	3B,2B
TR05, 06	03067400, 1	2SC1845 F, E	4B,1B
TR07, 08	03064001, 2	2SC1904 B, V	4B,1B
TR09, 10	03068301, 2	2SC2320 E, F	2, 3C
TR11, 12	03084801, 2	2SD358 D, E	2, 3B
TR13, 14	03033101, 2	2SB528 D, E	1, 4B
TR15, 16	03070000, 1	2SC2577 LB2 O, Y	2, 3C
TR17, 18	03013100, 1	2SA1102 LB2 O, Y	1, 4C
TR601	03067400, 1	2SC1845 F, E	5C
TR602	03010900, 1	2SA992 F, E	5B
TR603	03086101, 2	2SD357 D, E	5C
TR604	03010900, 1	2SA992 E, F	5B
●IC			
IC 601	03607700	NJM4558D	3B
●Diode			
D 01, 02	03117600	1S2473D	1, 4B
D 03, 04	03117600	1S2473D	2, 3B
D 05, 06	03117600	1S2473D	2, 3B
D 601	03115300	30D-2	4D
D 602	03115300	30D-2	4D
D 603	03115300	30D-2	4D
D 604	03115300	30D-2	4D
●Zener Diode			
ZD01, 02	03180200	RD24E B	
ZD601	03180200	RD24E B	5B
ZD602	03180200	RD24E B	5B
C 33, 34	08450900	4.7μF 16V E.B	3B,2B
C 35, 36	08450100	10μF 6.3V E.B	3B,2B
C 45, 46	08680400	0.01μF 500V C.C	2, 3C
C 601	00316000	4700μF 50V E.C.	2, 3D
C 602	00316000	4700μF 50V E.C	3D
R 71, 72	00091700	0.33Ω x 2 5W Ce.R	3, 4C,1, 2C
R 73, 74	00179000	10Ω 1W N.I.R	4D,2D
R 91, 92	00181500	2.2Ω 1W N.I.R	4D,2D
R 605	00182200	330Ω 1W N.I.R.	5C
L 01, 02	42102900	RF Coil 1.5μF	2, 3, 4D
VR01, 02	10370300	500Ω (Bi, bias Adj. Volume	1, 4B
VR601	10054700, 1	250kΩ (W) balance Volume	1A
VR602	10156300, 1	150kΩ (C) x 2, loudness Volume	2A
VR603	10156200, 1	100kΩ (C) x 2, bass Volume	4A
VR604	10156200, 1	100kΩ (C) x 2, treble Volume	3A
S 601	11322400	Push Switch, high filter	2A
S 602	11322300	Push Switch, speakers	5A
	22902500	Output Terminal (Speaker)	
	22902400	Output Terminal (Speaker)	
●IC			
IC 602	03610000	TA7318P	5A, B
IC 701	03194200	L.E.D. Ass'y (5013)	
C 49, 50	08451700	1μF 50V E.B	5A,4A
R 613	00180800	1.8kΩ 1W N.I.R.	5B

3-2. F-3160 Equalizer Amp. Circuit Board (Stock No. 75517201)

Conductor Side

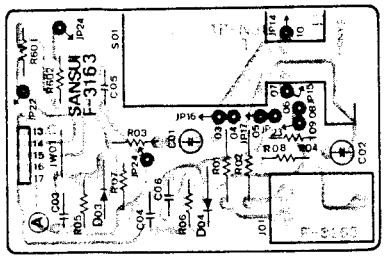


Parts List

Parts No.	Stock No.	Description	Position
●Transistor			
TR01, 02	03004700, 1	2SA726 F.G.	B.C.
TR03, 04	03060701, 2	2SC1313 G.H	B.C.
S 601	11904600	Input Mode Selector Switch	A
	11907900	Input Mode Selector Switch	A
	22007200	6P Input Terminal	

3-3. F-3163 Power Indicator Unit Circuit Board (Stock No. 75993401)

Conductor Side



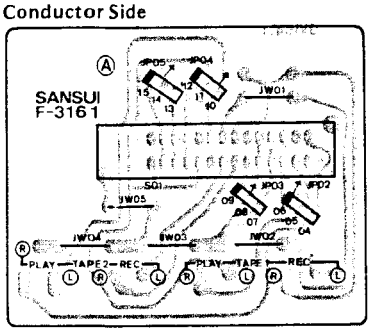
Parts List

Parts No.	Stock No.	Description
	11319000	Push Switch (Power)
	24306000	Phones Jack

•The circuit boards, F-3161, F-3162 & F-3109 are not supplied as the assembled, the individual parts on the circuit boards, however are provided for orders.

3-4. F-3161 REC OUT Selector Switch Circuit Board

Conductor Side

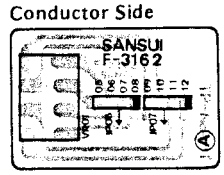


Parts List

Parts No.	Stock No.	Description
S 01	11907900	REC OUT Selector Switch
	22007100	4P Input Terminal x 2

3-5. F-3162 Master Volume Unit Circuit Board

Conductor Side

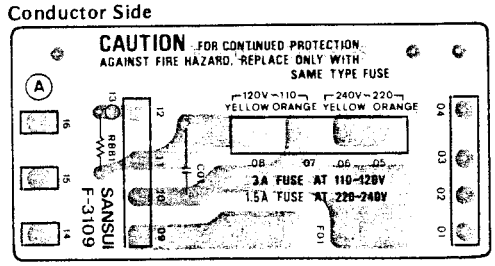


Parts List

Parts No.	Stock No.	Description
VR01	10155700, 1	150kΩ (B) x 2, master Volume

3-6. F-3109 Power Supply Circuit Board

Conductor Side



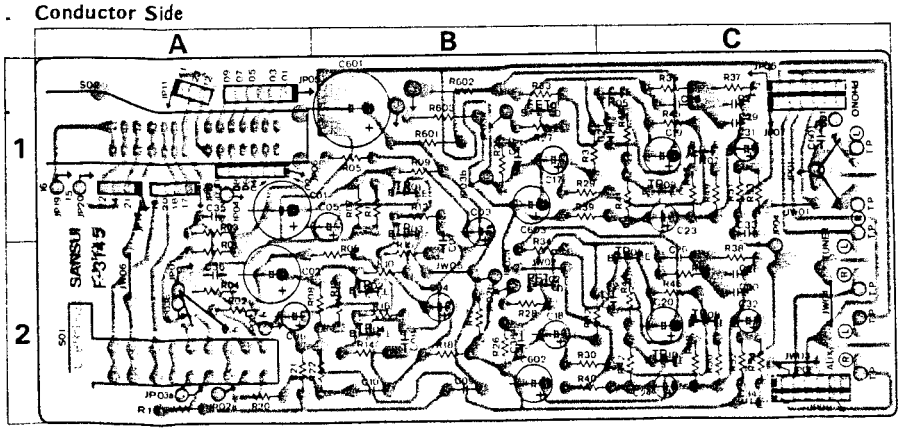
Parts List

Parts No.	Stock No.	Description
F 01	04322400	AC Fuse 2A 250V (220 ~ 240V)
	04322800	AC Fuse 4A 125V (110 ~ 120V)

•A-80

3-7. F-3145 Equalizer Amp. Circuit Board (Stock No. 75517001)

Conductor Side

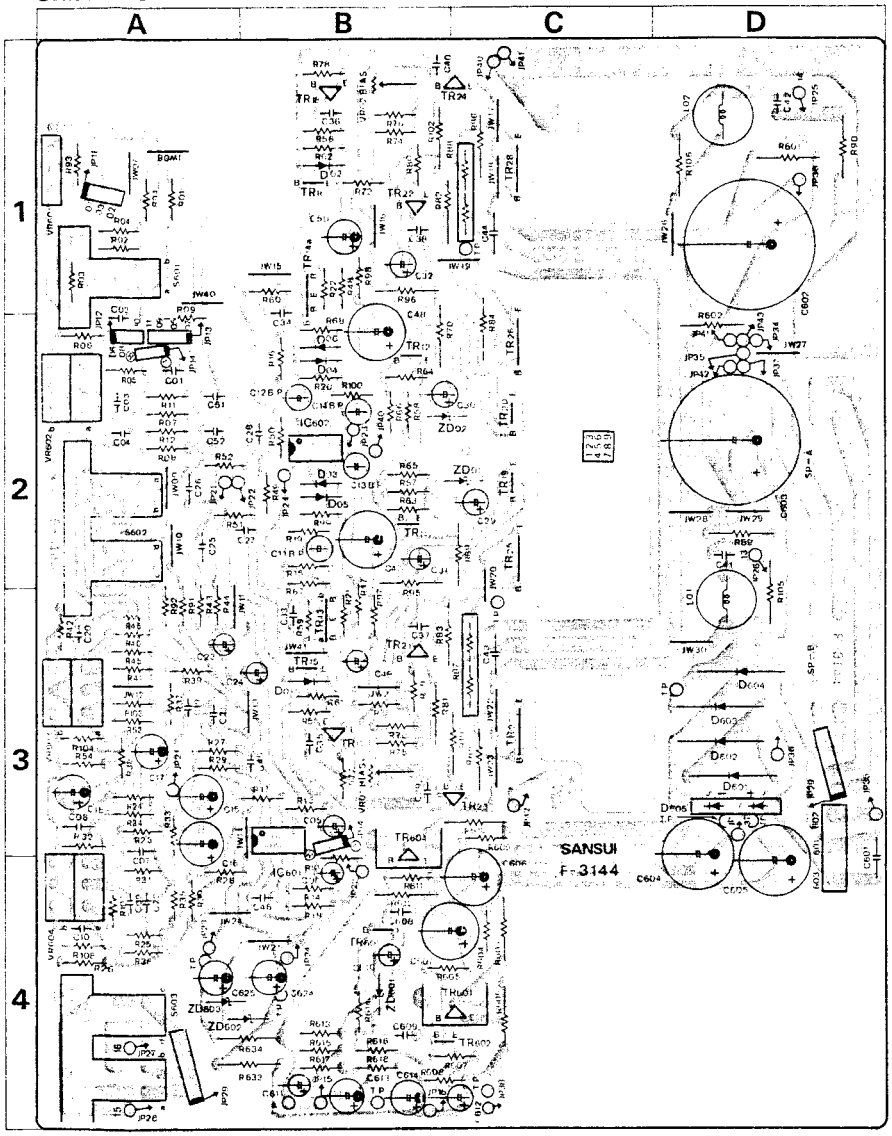


Parts List

Parts No.	Stock No.	Description	Positio
•Transistor			
TR01, 02	03068500, 1	2SC1844 F, E	1B,2B
TR03, 04	03068500, 1	2SC1844 F, E	1B,2B
TR05, 06	03010900, 1	2SA992 F, E	1C,2C
TR07, 08	03067400, 1	2SC1845 F, E	1C,2C
TR09, 10	03010900, 1	2SA992 F, E	1C,2C
•FET			
FET01, 02	03703402 ~ 5	2SK163 L1, L2, M1, M2	1B,2B
S 01	11322500	Phono (MM/MC) Selector Switch	2A
S 02	11904600	Input Selector Switch	1A
	22007200	Input Terminal (Phono, Tuner, AUX)	

3-8. F-3144 Tone/Main Amp. and Power Supply Circuit Board (Stock No. 75726301)

Conductor Side

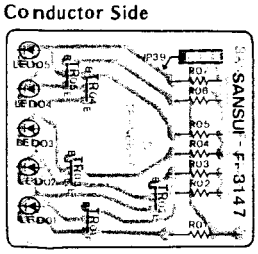


Parts List

Parts No.	Stock No.	Description	Position
•Transistor			
TR11, 12	03010900, 1	2SA992 F, E	2B
TR13, 14	03603700, 1	2SA798 F, G	3B,1B
TR15, 16	03067400, 1	2SC1845 F, E	3B,1B
TR17, 18	03064001, 2	2SC1904 B, V	3B,1B
TR19, 20	03067400, 1	2SC1845 F, E	2C
TR21, 22	03084801, 2	2SD358 D, E	3B,1B
TR23, 24	03033101, 2	2SB528 D, E	3B,C,1B,C
TR25, 26	03069800, 1	2SC2579 O, Y	2C
TR27, 28	03012900, 1	2SA1104 O, Y	3C,1C
TR601	03084801, 2	2SD358 D, E	4B,C
TR602	03067400, 1	2SC1845 F, E	4B
TR603	03010900, 1	2SA992 F, E	4B
TR604	03033101, 2	2SB528 D, E	3, 4B
•IC			
IC 601	03607700	NJM4558D	3B
IC 602	03607700	NJM4558D	2B
•Diode			
D 01, 02	03117600	1S2473D	1, 3B
D 03, 04	03117600	1S2473D	2B
D 05, 06	03117600	1S2473D	2B
D 601	03115700	ERD03-02J	3D
D 602	03115700	ERD03-02J	3D
D 603	03115700	ERD03-02J	3D
D 604	03115700	ERD03-02J	3D
D 605	03117000	RB-152	3D
•Zener Diode			
ZD01, 02	03179800	RD20E B	2B,C
ZD601	03177400	RD6.2E B	4B
ZD602	03179200	RD15E B	4A,B
ZD603	03179200	RD15E B	4A
C 11, 12	08450900	4.7μF 16V E.B.	2B
C 13, 14	08450100	10μF 6.3V E.B.	2B
C 43, 44	08680400	10000pF 500V C.C.	1, 3C
C 601	08680400	10000pF 500V C.C.	4D
C 602	08301800	6800μF 63V E.C.	1D
C 603	08301800	6800μF 63V E.C.	2D
R 87, 88	00091700	0.33Ω x 2 5W Ce.R.	3C,1C
R 89, 90	00179000	10Ω 1W N.I.R.	2D,1D
R 105, 106	00181500	2.2Ω 1W N.I.R.	3D,1D
R 601	00183900	5.6kΩ 1W N.I.R.	1D
R 602	00183900	5.6kΩ 1W N.I.R.	2D
L 01, 02	42102900	RF Coil 1.5μH	1, 3D
VR01, 02	10370400	1kΩ B, bias current Adj.	1, 3B
VR601	10054700, 1	250kΩ (W), balance	1A
VR602	10156300, 1	20kΩ (B) x 2, loudness	2A
VR603	10156200, 1	100kΩ(C) x 2, treble volume	3A
VR604	10156200, 1	100kΩ(C) x 2, bass volume	4A
S 601	11322400	Muting Switch	1A
S 602	11322800	Subsonic Filter Switch	2A
S 603	11322600	Speakers Switch	4A
	22902400	Output Terminal	
	22902500	Output Terminal	

3-9. F-3147 Peak Indicator Unit Circuit Board (Stock No. 75992701)

Conductor Side

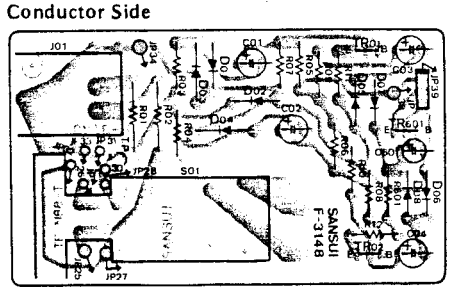


Parts List

Parts No.	Stock No.	Description
•Transistor		
TR01 ~ 03	03012700, 1	2SA999 E, F
TR04, 05	03012700	2SA999 E
•LED		
LD01	03193200	GL-9PR9
LD02	03193200	GL-9PR9
LD03	03193200	GL-9PR9
LD04	03193200	GL-9PR9
LD05	03193200	GL-9PR9

3-10. F-3148 Peak Indicator Amp. Circuit Board (Stock No. 75039401)

Conductor Side



Parts List

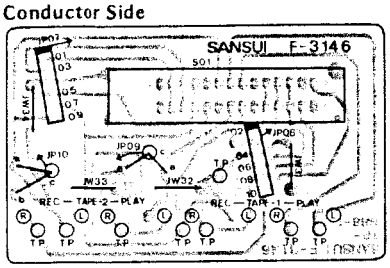
Parts No.	Stock No.	Description
•Transistor		
TR01, 02	03068301, 2	2SC2320 E, F
TR601, 602	03012700, 1	2SA999 E, F
•Diode		
D 01, 02	03117600	1S2473D
D 03, 04	03117800	1N60
D 05, 06	03117600	1S2473D
D 07, 08	03117600	1S2473D

Parts No.	Stock No.	Description
C 601	08417400	0.33μF 100V E.C.
C 602	00386000	0.01μF 150V C.C.
R 01, 02	00181200	220Ω 1W N.I.R.
S 01	11319000	Power Switch
J 01	24306000	Head Phone Jack

●The circuit boards, F-3146, F-3182, F-3149, F-3150, F-3151, F-3152 & F-3153 are not supplied as the assembled, the individual parts on the circuit boards, however are provided for orders.

3-11. F-3146 REC OUT Selector Switch Circuit Board

Conductor Side

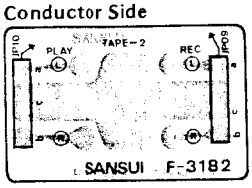


Parts List

Parts No.	Stock No.	Description
S 601	11907900	REC OUT Selector Switch
	22007100	4P Input Terminal (TAPE)

3-12. F-3182 TAPE-2 Input Terminal Circuit Board

Conductor Side

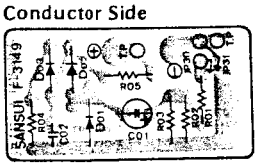


Parts List

Parts No.	Stock No.	Description
	22005800	4P Input Terminal

3-13. F-3149 Power Meter Drive Amp. Circuit Board (1)

Conductor Side

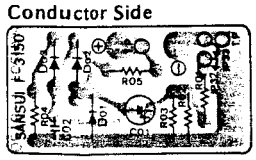


Parts List

Parts No.	Stock No.	Description
●Diode		
D 01	03117800	1N60
D 02	03117800	1N60
D 03	03117600	1S2473D
C 01	08452000	4.7μF 50V E.B

3-14. F-3150 Power Meter Drive Amp. Circuit Board (2)

Conductor Side



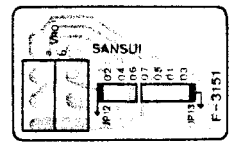
Parts List

Parts No.	Stock No.	Description
●Diode		
D 01	03117800	1N60
D 02	03117800	1N60
D 03	03117600	1S2473D
C 01	08452000	4.7μF 50V E.B

Note: As the stock number in the parts list on this service manual is indicated in 8 digit to differ from ordinary 7 digit, please be careful when ordering parts.

3-15. F-3151 Master Volume Unit Circuit Board

Conductor Side

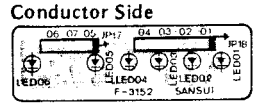


Parts List

Parts No.	Stock No.	Description
VR01	10155700	150kΩ B x 2 Master Volume

3-16. F-3152 Input Source Indicator Unit Circuit Board

Conductor Side

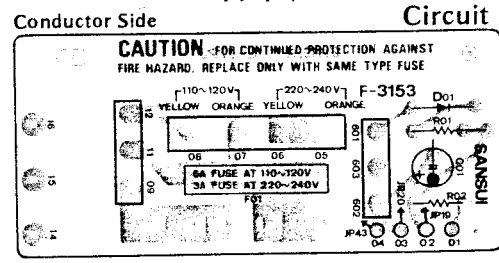


Parts List

Parts No.	Stock No.	Description
●LED		
LD01	03193700	LED
LD02	03193700	LED
LD03	03193700	LED
LD04	03193700	LED
LD05	03193700	LED
LD06	03193700	LED

3-17. F-3153 Power Supply (Peak Indicator) Circuit Board

Conductor Side



Parts List

Parts No.	Stock No.	Description
●Diode		
D 01	03117700	10E-2
F 01	04322600	AC Fuse, 3A 250V (220 ~ 240V)
	04323000	AC Fuse, 6A 125V (110 ~ 120V)

● Abbreviations

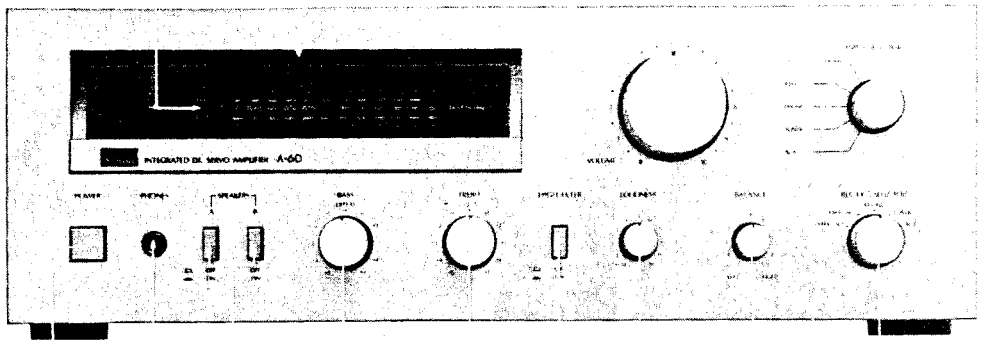
C.R.	Carbon Resistor
S.R.	Solid Resistor
Ce.R.	Cement Resistor
M.R.	Metal Film Resistor
F.R.	Fusing Resistor
N.I.R.	Non-Inflammable Resistor
C.C.	Ceramic Capacitor
C.T.	Ceramic Capacitor, Temperature Compensation
E.C.	Electrolytic Capacitor
E.L.	Low Leak Electrolytic Capacitor
E.B.	Bi-Polar Electrolytic Capacitor
E.BL.	Low Leak Bi-Polar Electrolytic Capacitor
Ta.C.	Tantalum Capacitor
F.C.	Film Capacitor
M.P.	Metalized Paper Capacitor
P.C.	Polystyrene Capacitor
G.C.	Gimmic Capacitor

4. OTHER PARTS

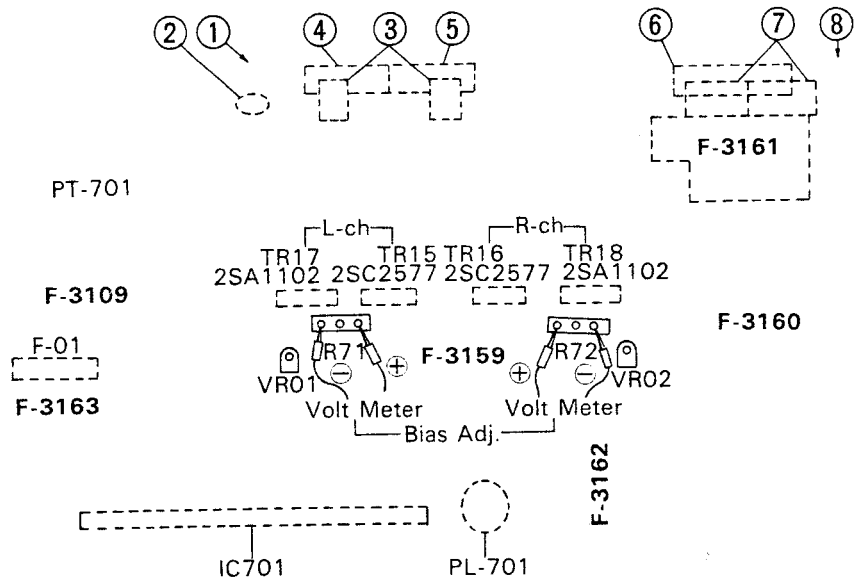
Note: Since there are black & silver models in A-60, A-80, please pay attention when ordering parts.

●A-60

4-1. Front View



4-2. Top View



Parts List <Front View>

Parts No.	Stock No.	Description
●Silver Model Only		
1	70087410	Front Panel Ass'y
2	54465500	Front Glass
3	55074900	Masking Sponge
4	53195000	Push Switch Knob, power
5	59560800	Knob Guide
6	53194910	Push Switch Knob, speakers, high filter
7	53967810	Knob Guide
8	53195800	Knob Bass, Treble, REC Out Selector Input Selector
9	53195600	Knob Loudness, Balance
10	53195500	Knob Master
●Black Model Only		
1	70087300	Front Panel Ass'y
2	54465500	Front Glass
3	55074900	Masking Sponge
4	53196500	Push Switch Knob, power
5	59560900	Knob Guide
6	53194810	Push Switch Knob, speakers, high filter
7	53967710	Knob Guide
8	53196300	Knob
9	53196200	Knob
10	53196400	Knob
●Silver Model & Black Model		
11	73060720	Peak Power Indicator Ass'y
12	52999900	Meter Frame
13	54586510	Peak Power Indicator Scale
14	54465610	Smoked Plate

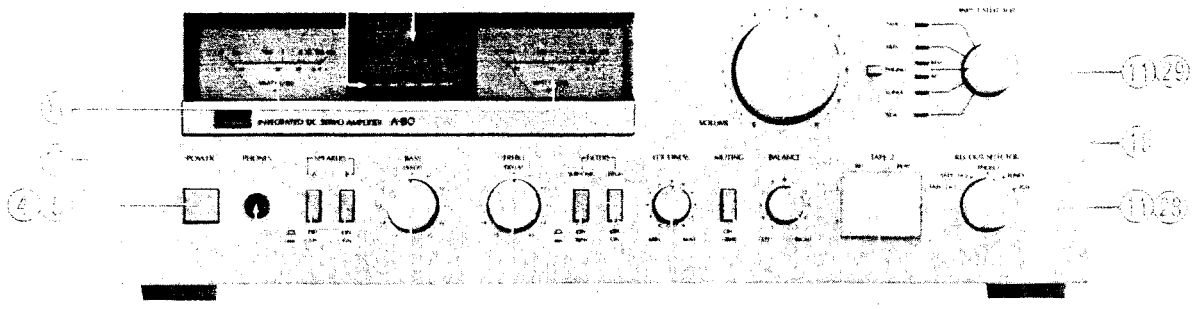
Parts No.	Stock No.	Description
15	54578000	Side Panel, left
	55074510	Rubber Patch
16	54578110	Side Panel, right
	55074510	Rubber Patch
17	11319000	Push Switch, power
18	24306000	Phones Jack
19	11322300	Push Switch, speakers
20	50485400	Masking Sheet (B)
	10156200, 1	Bass Volume, 100kΩ (C) x 2
21	50485400	Masking Sheet (B)
	10156200, 1	Treble Volume, 100kΩ (C) x 2
22	11322400	Push Switch, high filter
23	50485400	Masking Sheet (B)
	10156300, 1	Loudness Volume, 150kΩ (C) x 2
24	50485400	Masking Sheet (B)
	10054700, 1	Balance Volume 250kΩ (W)
25	50485400	Masking Sheet (B)
	11907900	Selector Switch, rec out
	62070510	Joint Shaft
	53062300	Bearing Plate, joint shaft
	60460410	Coupler, joint shaft
26	50485400	Masking Sheet (B)
	11904100	Selector Switch, input mode
27	50485300	Masking Sheet (A)
	10155700, 1	Master Volume, 150kΩ (B) x 2
28	57272400	Bonnet
29	50664200	Bottom Plate

Parts List <Top View>

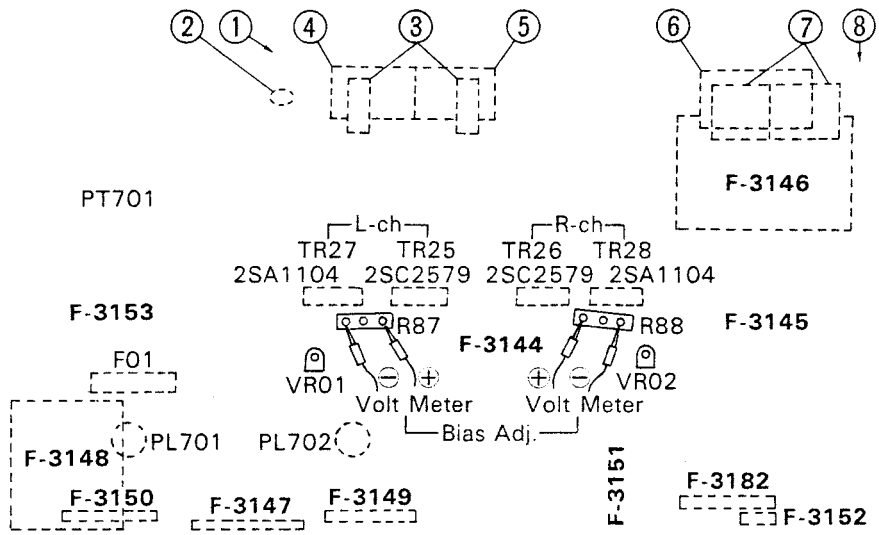
Parts No.	Stock No.	Description
1	38004700	Power Cord
2	39106000	Strain Relief 3φ
3	24501100	AC Outlet
4	22902500	Speaker Terminal
5	22902400	Speaker Terminal
6	22007200	6P Input Terminal
7	22007100	4P Input Terminal
8	22301500	Ground Terminal
IC 701	03194200	L.E.D Ass'y (5013)
	03194300	L.E.D. Ass'y (5011)
PT 701	40033400	Power Transformer
PL 701	04007600	Lamp, 8V 300mA
F 01	04322400	AC Fuse, 2A 250V (220 ~ 240V)
	04322800	AC Fuse, 4A 250V (110 ~ 120V)

●A-80

4-3. Front View



4-4. Top View



Parts List <Front View>

Parts No.	Stock No.	Description
●Silver Model Only		
1	70086410	Front Panel Ass'y
2	54466500	Front Glass
3	54266500	Indicator
4	53195000	Push Switch Knob, power
5	59560800	Knob Guide
6	53194910	Push Switch Knob
7	53967800	Knob Guide
8	71064000	Push Switch Knob Ass'y (A)
9	73060210	Tape Terminal Cover
10	54590300	Tape Terminal Panel
11	53195800	Knob
12	53195600	Knob
13	53195500	Knob
●Black Model Only		
1	70086500	Front Panel Ass'y
2	54466500	Front Glass
3	54266500	Indicator
4	53196500	Push Switch Knob, power
5	59560900	Knob Guide
6	53194800	Push Switch Knob
7	53967700	Knob Guide
8	71061500	Push Switch Knob Ass'y (A)
9	73060300	Tape Terminal Cover
10	54590400	Tape Terminal Panel
11	53196300	Knob
12	53196200	Knob
13	53196400	Knob
●Silver Model & Black Model		
14	57272400	Bonnet
15	73060410	Meter Frame Ass'y
	54586400	Smoked Plate

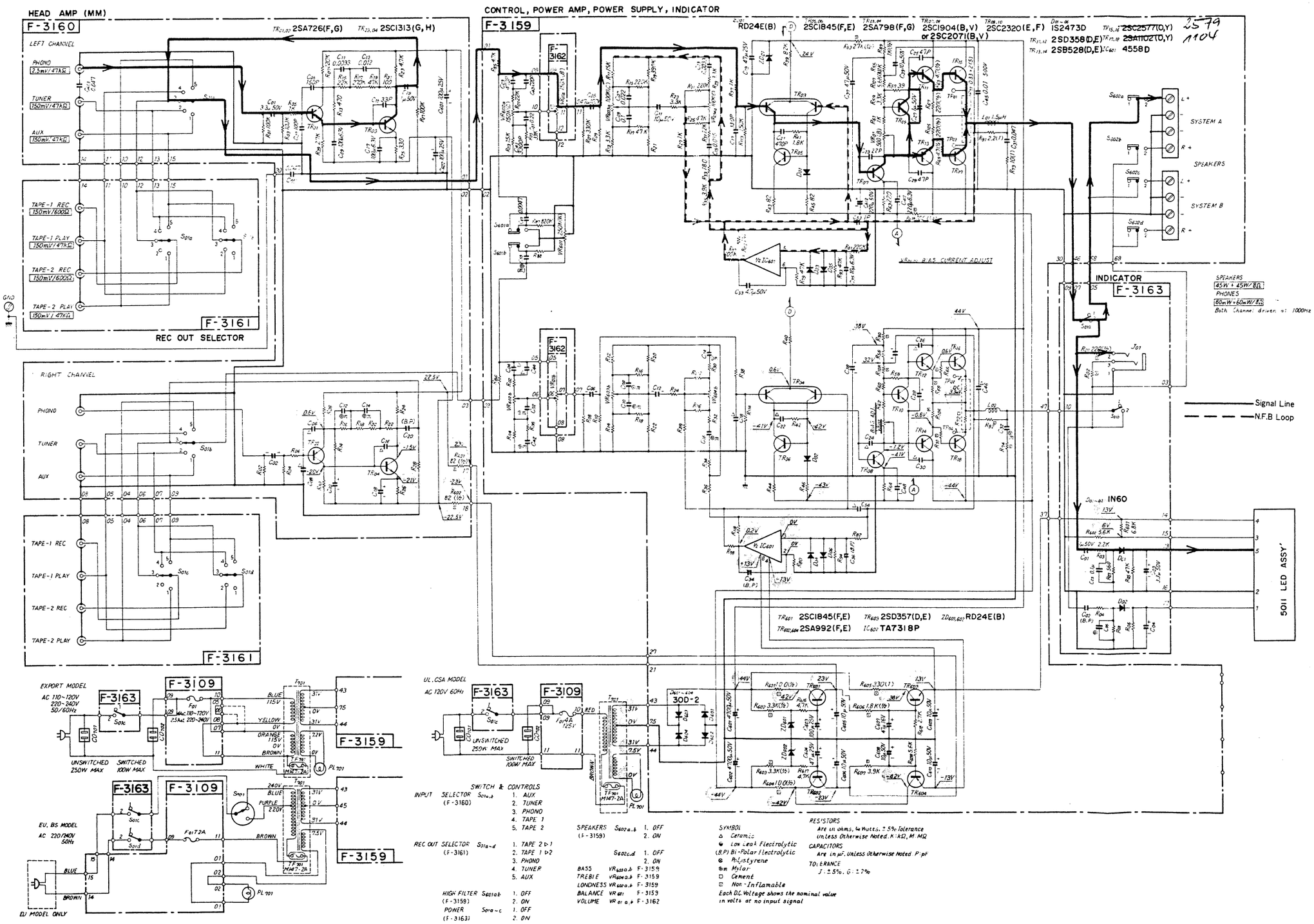
Parts No.	Stock No.	Description	Position
16	43014000	Meter	
17	54578000	Side Panel, left	
	55074510	Rubber Patch	
18	54578110	Side Panel, right	
	55074510	Rubber Patch	
19	24306000	Phones Jack	
20	11319000	Push Switch, power 4614 9800	
21	11322600	Push Switch, speakers	
22	50485400	Masking Sheet (B)	
	10156200, 1	Bass Volume, 100kΩ (C) x 2	
23	50485400	Masking Sheet (B)	
	10156200, 1	Treble Volume, 100kΩ (C) x 2	
24	11322800	Push Switch, filters	
25	50485400	Masking Sheet (B)	
	10156300, 1	Loudness Volume, 20kΩ (B) x 2	
26	11322400	Push Switch, Muting	
27	50485400	Masking Sheet (B)	
	10054700, 1	Balance Volume 250kΩ (W)	
	50485400	Masking Sheet (B)	
	11907900	Selector Switch, rec out	
28	62070510	Joint Shaft	
	63062300	Bearing Plate, joint shaft	
	60460410	Coupler, joint shaft	
	50485400	Masking Sheet (B)	
29	11904100	Selector Switch, input mode	
	11322500	Push Switch, phono (MM, MC)	
30	50485300	Masking Sheet (A)	
	10155700	Master Volume, 150kΩ (B) x 2	
31	50664200	Bottom Plate	
32	22005800	Input Terminal	
33	52969600	6P L.E.D. Holder	
34	52969010	5P L.E.D. Holder	
35	50485200	5P L.E.D. Holder Cover	

Parts List <Top View>

Parts No.	Stock No.	Description
1	38004700	Power Cord
2	39106000	Strain Relief 3φ
3	24501100	AC Outlet
4	22902500	Speaker Terminal
5	22902400	Speaker Terminal
6	22007200	6P Input Terminal
7	22007100	4P Input Terminal
8	22301500	Ground Terminal (A)
PT 701	40033000	Power Transformer
PL 701, 2	04007600	Lamp, 8V 300mA
F 01	04322600	AC Fuse, 3A 250V (220 ~ 240)
	04323000	AC Fuse, 6A 125V (110 ~ 120)

- Design and specifications subject to change without notice for improvement.
- La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
- Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.

5. SCHEMATIC DIAGRAM 5-1. A-60



SWITCH & CONTROLS

INPUT SELECTOR $S_{201a,b}$ (F-3160): 1. AUX 2. TUNER 3. PHONO 4. TAPE 1 5. TAPE 2

REC OUT SELECTOR $S_{201c,d}$ (F-3161): 1. TAPE 2 ▷ 1 2. TAPE 1 ▷ 2 3. PHONO 4. TUNER 5. AUX

HIGH FILTER $S_{601a,b}$ (F-3159): 1. OFF 2. ON

POWER S_{201e} (F-3163): 1. OFF 2. ON

SPEAKERS $S_{602a,b}$ (F-3159): 1. OFF 2. ON

$S_{602c,d}$: 1. OFF 2. ON

BASS $VR_{603a,b}$ F-3159

TREBLE $VR_{604a,b}$ F-3159

LOUDNESS $VR_{605a,b}$ F-3159

BALANCE VR_{601} F-3159

VOLUME $VR_{201a,b}$ F-3162

SYMBOL
- Δ Ceramic
- Low Leak Electrolytic
- (B.P) Bi-Polar Electrolytic
- Polystyrene
- Mylar
- Cement
- Non-Inflamable

Each DC Voltage shows the nominal value in volts at no input signal

RESISTORS
Are in ohms, ¼ Watts, ±5% Tolerance
Unless Noted. K-kΩ, M-MΩ

CAPACITORS
Are in μF, Unless Otherwise Noted P-pF

TOLERANCE
J: ±5%, G: ±2%

TR201 2SC1845(F,E) TR203 2SD357(D,E) ZD601,602 RD24E(B)
TR202,204 2SA992(F,E) IC601 TA7318P

2SA992 2SC1845
2SA726 2SC1313 2SC2320
2SC1904
2SB528 2SD357 2SD358
2SC2577
2SA1102
2SA798F.G.
TA7318P
NJM4558D
IN60 IS2473D
RD24E
30D 2

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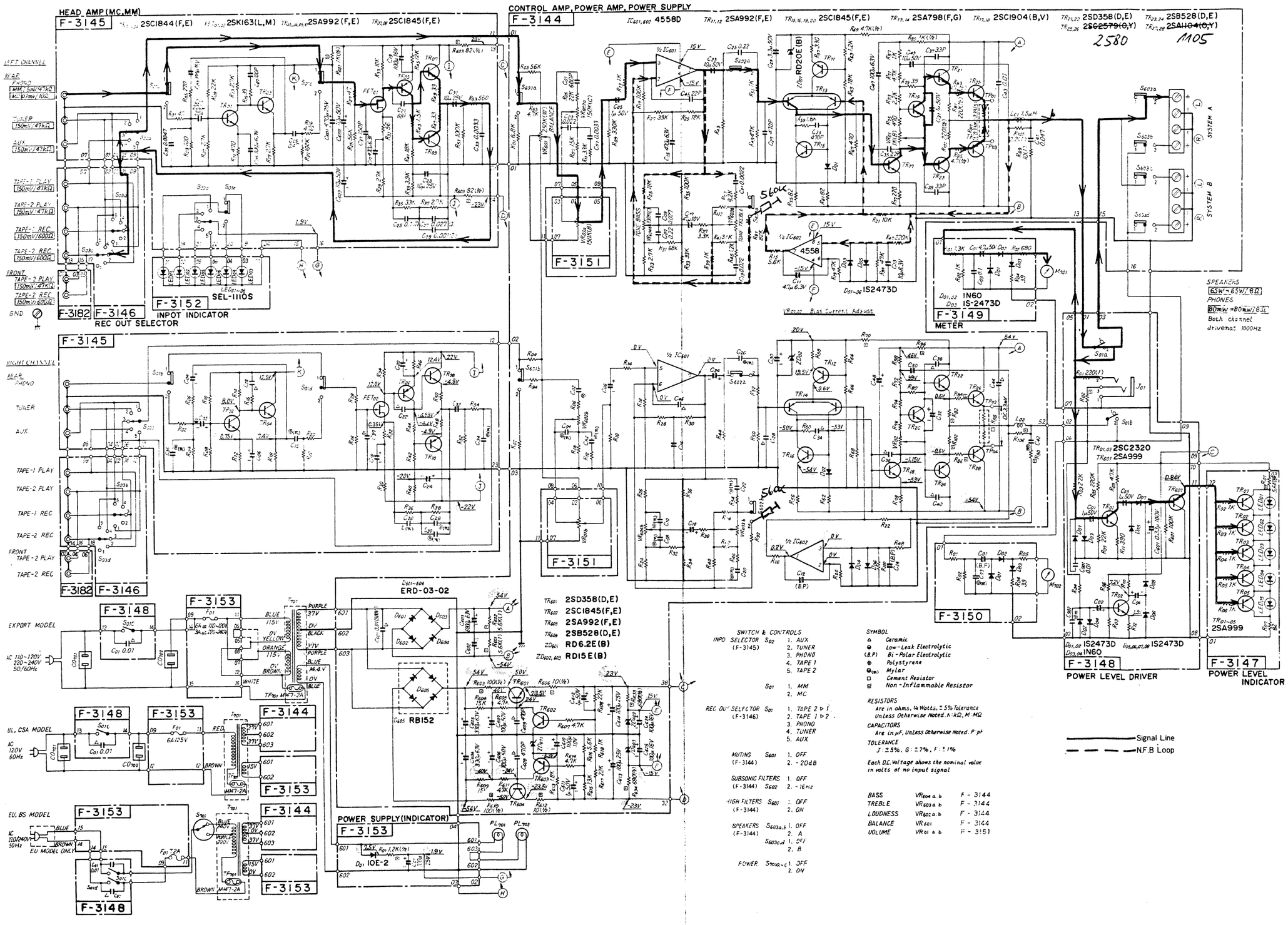
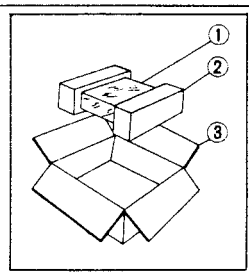
5-2. A-80



6. PACKING LIST

Parts No.	Stock No.	Description
Model A-60		
1	91263800	Vinyl Cover
2	90284000	Styrofoam Packing
3	90561400	Carton Case (Silver Model Only)
	90562800	Carton Case (Black Model Only)
Model A-80		
1	91263800	Vinyl Cover
2	90284000	Styrofoam Packing
3	90561200	Carton Case (Silver Model Only)
	90562700	Carton Case (Black Model Only)



7. ACCESSORY PARTS LIST

Stock No.	Description
Model A-60	
92055400	Operating Instructions
Model A-80	
92055500	Operating Instructions